

AMENDMENTS TO THE CLAIMS

1. (currently amended) A synchronization detecting apparatus making synchronization detection by using a pilot signal that comprises a plurality of bits and at least one specific bit of said plurality of bits is used as a synchronization signal ~~on which a synchronization signal is multiplexed~~, comprising:

a channel estimating unit making channel estimation by using the pilot signal from which ~~at least the synchronization signal~~ a predefined part of the pilot signal is removed; and

a synchronization signal demodulating unit demodulating each bit of the synchronization signal by using a result of the channel estimation, wherein

said predefined part is defined for each target bit of the synchronization signal to be demodulated and is defined so as to include the target bit; and

synchronization detection is made by using the demodulated synchronization signal.

2. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

~~said predefined part is said channel estimating unit makes channel estimation by using a pilot signal in a slot other than~~ a slot including the target bit of the synchronization signal.

3. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

said channel estimating unit divides signal bits used for channel estimation into groups, and ~~said predefined part is makes channel estimation by using signal bits of a group other than a group including~~ the target bit of the synchronization signal.

4. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

said predefined part is the target bit~~said channel estimating unit makes channel estimation by using signal bits used for channel estimation, from which a bit of the synchronization signal is removed.~~

5. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

said channel estimating unit also serves as and a channel estimating unit for demodulating data ~~are put into common use~~.

6. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

said channel estimating unit makes weight coefficients, which are applied to a process result of each slot, different from weight coefficients for data demodulation, which are used at the time of channel estimation, when making the channel estimation.

7. (original) The synchronization detecting apparatus according to claim 1, wherein weight coefficients, which are applied to each slot at the time of channel estimation, are varied according to reception quality information obtained from a reception quality estimating circuit.

8. (original) The synchronization detecting apparatus according to claim 1, wherein weight coefficients, which are applied to each slot at the time of channel estimation, are varied according to a fading speed obtained from a fading frequency estimating circuit.

9. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

synchronization detection is made by varying setting at least one parameter of parameters for synchronization detection, which comprise a parameter indicating a number of error-tolerable bits of the synchronization signal, a parameter indicating a number of backward guard stages, and a parameter indicating a number of forward guard stages, according to a state of a propagation path wherein the state is indicated by at least one of reception quality information obtained from a reception quality estimating circuit, a fading speed obtained from a fading frequency estimating circuit, and a number of pilot symbols.

Serial No. 09/918,964

Page 8 of 14

10. (currently amended) The synchronization detecting apparatus according to claim 1, wherein

synchronization detection is made by using an output of a path having a largest correlation value among outputs of a RAKE receiver of a CDMA code division multiple access receiving device.

11. (currently amended) A synchronization detecting method making synchronization detection by using a pilot signal that comprises a plurality of bits and at least one bit of said plurality of bits is used as a synchronization signal ~~on which a synchronization signal is multiplexed~~, comprising:

making channel estimation by using the pilot signal from which ~~at least the synchronization signal~~ a predefined part of the pilot signal is removed; and

demodulating each bit of the synchronization signal by using a result of the channel estimation, wherein

said predefined part is defined for each target bit of the synchronization signal to be demodulated and is defined so as to include the target bit; and

synchronization detection is made by using the demodulated synchronization signal.

84112512_1